



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

January 12, 2009
NOC-AE-08002376
File No.: G25
10 CFR 50.73

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Unit 2
Docket No. STN 50-499
Licensee Event Report 2-08-003
Inoperable Component Cooling Water Train

Pursuant to 10 CFR 50.73, the STP Nuclear Operating Company (STPNOC) submits the attached Unit 2 Licensee Event Report 2-08-003 to address an incident of a Component Cooling Water (CCW) train being inoperable longer than the time allowed by Technical Specifications. This condition was determined to be reportable under 10 CFR 50.73(a)(2)(i).

Unit 2 CCW Train A was found to be inoperable at 20:59 on October 14, 2008, during system testing during refueling outage 2RE13 and returned to operability at 01:58 on October 16, 2008. Although the discovery was initially determined to not be reportable, subsequent review completed November 16, 2008, determined that the condition is reportable. Based upon the timing of maintenance work on the system, inoperability is conservatively presumed to have been initiated as the result of maintenance performed January 22, 2008. The allowed outage time for an inoperable CCW train expired on January 29, 2008. This event did not have an adverse effect on the health and safety of the public.

There are no commitments contained in this Licensee Event Report. Corrective actions will be processed in accordance with the STP Corrective Action Program.

If there are any questions on this submittal, please contact either P. L. Walker at (361) 972-8392 or me at (361) 972-8902.

A handwritten signature in black ink, appearing to read "K. L. Coates".

Ken L. Coates
Plant Manager

PLW

Attachment: LER 2-08-003, Inoperable Component Cooling Water Train

STI: 32414054

FE22
NRR

cc:

(paper copy)

Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
612 East Lamar Blvd., Suite 400
Arlington, Texas 76011-8064

Mohan C. Thadani
Senior Project manager
U.S. Nuclear Regulatory Commission
One White flint North (MS 7 D 1)
11555 Rockville Pike,
Rockville, MD 20852

C. M. Canady
City of Austin
Electric Utility Department
721 Barton Springs Road
Austin, TX 78704

Richard A. Ratliff
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3189

Senior Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 289, Mail Code: MN116
Wadsworth, TX 77483

(electronic copy)

Kevin Howell
Catherine Callaway
Jim von Suskil
NRG South Texas LP

J. J. Nesrsta
R. K. Temple
Kevin Pollo
E. Alarcon
City Public Service

A. H. Gutterman, Esquire
Morgan, Lewis & Bockius LLP

Mohan Thadani
U. S. Nuclear Regulatory Commission

C. Kirksey
City of Austin

Jon C. Wood
Cox Smith Matthews

LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME South Texas Unit 2	2. DOCKET NUMBER 05000499	3. PAGE 1 OF 4
--	------------------------------	-------------------

4. TITLE
Inoperable Component Cooling Water Train

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	14	08	2008	- 003 -	0	01	12	2009	N/A	

9. OPERATING MODE 6	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
10. POWER LEVEL 0	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER							
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

12. LICENSEE CONTACT FOR THIS LER

NAME Philip L. Walker, Staff Licensing Engineer	TELEPHONE NUMBER (Include Area Code) 361-972-8392
--	--

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

15. EXPECTED SUBMISSION DATE

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE)

x NO

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

At 20:59 on October 14, 2008, Unit 2 Component Cooling Water (CCW) Train A was discovered to be inoperable due to an inoperable level switch in the CCW surge tank. During surveillance testing of the low-level switch, it did not respond as required. Troubleshooting identified the cause of the failure as a loose wire. Operability was restored at 01:58 on October 16, 2008.

Technical Specification 3.7.3 requires that if one train of CCW is inoperable in Modes 1, 2, 3, and 4, it is to be restored to operability within seven days or the unit is to be in at least hot standby within six hours. Previous maintenance that could have affected the wire was completed January 22, 2008. The allowed outage time expired on January 29, 2008. Because these components were inoperable longer than allowed under the Technical Specifications without taking the appropriate action, this event is reportable under 10 CFR 50.73(a)(2)(i)(B).

The root cause of the event was an inadequate calibration procedure. The procedure did not require a functionality check of the internal switch contacts after switch calibration restoration. Maintenance procedures for safety-related equipment will be reviewed to identify procedures that are not followed immediately by a functionality check, and will be corrected as necessary.

Only CCW Train A of Unit 2 was affected by this condition.. This event resulted in no personnel injuries, no offsite radiological releases, and no damage to other safety-related equipment.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
South Texas Unit 2	05000499	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2	OF 4
		2008	003	00		

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

I. DESCRIPTION OF EVENT

A. REPORTABLE EVENT CLASSIFICATION

This event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B). South Texas Project (STP) Technical Specification 3.7.3 allows one train of Component Cooling Water (CCW) to be inoperable in Modes 1 through 4 for seven days before taking action to begin shutdown without extending the allowed outage time using the Configuration Risk Management Program. However, STP Unit 2 CCW Train A was determined to have been inoperable longer than the allowed outage time. Consequently, STP Unit 2 was in a condition prohibited by Technical Specifications.

B. PLANT OPERATING CONDITIONS PRIOR TO EVENT

STP Unit 2 was in Mode 6 at 0% power.

C. STATUS OF STRUCTURES, SYSTEMS, AND COMPONENTS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT

No other inoperable structures, systems, or components contributed to the event.

D. NARRATIVE SUMMARY OF THE EVENT

At 20:59 on October 14, 2008, during a surveillance test, STP Unit 2 CCW Train A was found to be inoperable due to failure of system valves to actuate to their designated positions. This occurred during the component 18-month surveillance test conducted during the Unit 2 2RE13 refueling outage. This test is conducted in plant operating modes 5 or 6, or when the core is offloaded. The test was conducted on CCW surge tank low-low level switch A2CC-LSL-4503C which actuates valves required to mitigate a CCW system leak. Troubleshooting determined that a loose wire on switch terminal 6 was the reason for the event. The wire was secured in place and Train A was returned to operable status at 01:58 on October 16, 2008.

The most recent maintenance performed on the switch occurred during a calibration procedure on January 22, 2008. The internal switch contacts were not functionally checked after restoration following calibration.

Initially, the condition was identified as being not reportable based on "time of discovery" as delineated in NUREG-1022. The condition would not have prevented fulfillment of a safety function. However, subsequent review determined that a functional check was not performed following restoration after the calibration on January 22, 2008. Because Train A was inoperable longer than the Technical Specification allowed outage time, a formal determination was made November 12, 2008, that the condition is reportable under 10 CFR 50.73(a)(2)(i)(B).

Unit 1 CCW surge tank level instrumentation was functionally tested following the Unit 2 discovery. The instrumentation was confirmed to be operable.

E. METHOD OF DISCOVERY OF EACH COMPONENT FAILURE, SYSTEM FAILURE, OR PROCEDURAL ERROR

This condition was identified during the 18-month surveillance of the Unit 2 Train A CCW surge tank low level actuation system.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE	
South Texas Unit 2	05000499	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3	OF 4
		2008	003	00		

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

II. EVENT-DRIVEN INFORMATION

A. SAFETY SYSTEMS THAT RESPONDED

No safety systems were required to respond during this event.

B. DURATION OF SAFETY SYSTEM INOPERABILITY

The CCW surge tank low-low level switch was most recently calibrated on January 22, 2008. The loose wire is presumed to have occurred at that time. Train A was declared inoperable October 14, 2008, and restored to operability October 16, 2008. The train was inoperable for 237 days.

Of the three trains of CCW, Trains B and C were unaffected by this condition. Low and low-low surge tank level monitors for Train B and Train C were confirmed as being operable. At least one of the two remaining trains was operable while Train A was inoperable.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

Technical Specification Requirements:

Technical Specification 3.7.3 requires at least three independent CCW loops to be operable in Modes 1, 2, 3, and 4. With only two CCW loops operable, the inoperable loop is to be restored to operable status within seven days or the Configuration Risk Management Program applied to justify an extension. Otherwise, the unit is to be in at least hot standby within the next six hours and in cold shutdown within the following 30 hours.

In addition to Technical Specification 3.7.3, Technical Specifications also include requirements for Residual Heat Removal System (RHR) operability. Some of these technical specifications are applicable in modes 5 and 6. CCW operability is required to support RHR operability; therefore, CCW must be operable during modes 5 and 6 in addition to modes 1 through 4 as required above.

Because Unit 2 CCW Train A was inoperable longer than allowed under the Technical Specifications without entering the appropriate action statements, this event is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B).

Design Description:

The CCW surge tank is partitioned into three equal volumes by internal baffles. Each compartment is connected to the inlet piping of one of the CCW pumps. The internal baffles provide separation between redundant CCW trains, so that leakage from a pipe break in one train does not affect the operability of the other trains. Makeup to the CCW surge tank is added automatically from the Demineralized Water System (DWS). As a backup by manual valve alignment, makeup water can be obtained from the Reactor Makeup Water System (RMWS) which is a safety-related and seismic Category I makeup source. An alarm is indicated in the control room if the level in the surge tank decreases due to inadequate makeup. If the level in the surge tank continues to decrease, the non-safety header is isolated, followed by automatic isolation of each CCW train from the other trains by closing the motor-operated supply and return valves located upstream and downstream of the common supply and the return headers, respectively. Simultaneously, pneumatic cross-connect valves (FV-4656 and FV-4657) in the centrifugal charging pump and positive displacement pump

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
South Texas Unit 2	05000499	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 4
		2008	003	00	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

coolers supply and return headers (CCW train A and CCW train B from CCW train C) and motor-operated valves MOV-0768 and MOV-0772 are closed to prevent loss of more than one CCW train at a time. As soon as the CCW common header is isolated, the low pressure switch located in the common header automatically starts the standby CCW pump(s).

Makeup to the system is automatic. The main plant computer and the Qualified Display Processing System monitor the surge tank level. When the valve providing tank makeup opens, the computer alarms to give an indication of system leakage. If the normal source of makeup (the Demineralized Water System) fails or is inadequate, it is alarmed in the control room by the surge tank level instrumentation. Surge tank level indication is displayed in the control room through indicators and the QDPS.

Risk Assessment:

This event resulted in no personnel injuries, no offsite radiological releases, and no damage to other safety-related equipment. The extended outage of CCW Train A was not risk significant and did not result in a net increase in the radiological risk to the public. Train A was still functional.

III. CAUSE OF THE EVENT

The root cause of the event was an inadequate calibration procedure. The procedure did not require a functionality check of the internal switch contacts after switch calibration restoration.

IV. CORRECTIVE ACTIONS

The surveillance procedure will be revised to require functional checks of switch contact actuation.

- Expected completion: 01/31/2009

Maintenance surveillance procedures will be reviewed to identify and correct as necessary those that do not have a functionality check prior to return-to-service.

- Expected completion: 04/09/2009

V. PREVIOUS SIMILAR EVENTS

On April 13, 2008, CCW surge tank for Train A low level switch LSL-4503B failed to actuate a non-safety isolation valve during performance of the low level actuation surveillance procedure. A valve was found to be stuck, and Train A was returned to service after it was corrected.

VI. ADDITIONAL INFORMATION

None.